

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | | |
|-------------|---------------------------|---|-------------------|----------------|
| Applicants: | Yu Deng | § | Art Unit: | 2169 |
| | | § | | |
| Serial No.: | 10/797,266 | § | Confirmation No.: | 5355 |
| | | § | | |
| Filed: | 03/10/2004 | § | Examiner: | Marc S. Somers |
| | | § | | |
| For: | Metadata-related Mappings | § | Atty. Dkt. No.: | 200314604-1 |
| | in a System | § | | (HPC.0833US) |
| | | § | | |
| | | § | | |

Mail Stop Appeal Brief-Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37

Sir:

The final rejection of claims 11-20 is hereby appealed.

I. REAL PARTY IN INTEREST

The real party in interest is the Hewlett-Packard Development Company, LP. The Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 11445 Compaq Center Drive West, Houston, TX 77707, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

Claims 11-20 have been finally rejected and are the subject of this appeal. Claims 1-10 and 21-25 have been withdrawn.

IV. STATUS OF AMENDMENTS

No amendment after the final rejection of March 4, 2009 has been submitted. Therefore, all amendments have been entered.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 11 recites a method performed by at least one processor (Fig. 1:106, 108), the method comprising:

generating a node (Figs. 3-5A: 206) to represent a functional relationship between one or more objects of distinct ontologies in a metadata system (Spec., p. 4, ¶ [0022], ln. 2-4; p. 5, ¶ [0024], ln. 1-14; p. 7, ¶ [0032], ln. 8-9);

associating a metadata expression (Figs. 3-4: 212) of the functional relationship to the node (Spec., p. 5, ¶ [0026], ln. 1-10; p. 6, ¶ [0027], ln. 1-8; p. 7, ¶ [0032], ln. 9-10); and

associating one or more parameters (Figs. 3-4: 208, 210) of the functional relationship to the node (Spec., p. 6, ¶ [0028], ln. 1-9; p. 7, ¶ [0032], ln. 10-11).

Independent claim 18 recites a computer readable medium storing a program executable by a processor, the program causes the processor (Fig. 1:106, 108) to:

generate a (Figs. 3-5A: 206) node to represent a functional relationship between one or more objects of distinct ontologies in a metadata system (Spec., p. 4, ¶ [0022], ln. 2-4; p. 5, ¶ [0024], ln. 1-14; p. 7, ¶ [0032], ln. 8-9);

link to the node a metadata expression (Figs. 3-4: 212) of the functional relationship (Spec., p. 5, ¶ [0026], ln. 1-10; p. 6, ¶ [0027], ln. 1-8; p. 7, ¶ [0032], ln. 9-10); and

link one or more parameters (Figs. 3-4: 208, 210) of the functional relationship to the node (Spec., p. 6, ¶ [0028], ln. 1-9; p. 7, ¶ [0032], ln. 10-11).

.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Claims 11-12 and 15-19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cui (WO 03/030025) in view of Ardoin (U.S. Patent No. 5,692,184) and Bonatti (An Ontology-Extended Relational Algebra).**
- B. Claims 13-14 and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cui in view of Ardoin and Bonatti and further in view of W3C (Resource Description Framework (RDF): Concepts and Abstract Syntax).**

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

- A. Claims 11-12 and 15-19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cui (WO 03/030025) in view of Ardoin (U.S. Patent No. 5,692,184) and Bonatti (An Ontology-Extended Relational Algebra).**

1. Claims 11, 12, 18, 19.

Independent claim 11 is non-obvious in view of Cui, Ardoin, and Bonatti.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as held by the U.S. Supreme Court, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

The Examiner conceded that Cui fails to disclose the following elements of claim 11:

generating a node to represent a functional relationship between one or more objects of distinct ontologies in a metadata system;

associating a metadata expression of the functional relationship to the node; and

associating one or more parameters of the functional relationship to the node.

3/4/2009 Office Action at 3. Instead, the Examiner relied upon Ardoin and Bonatti as purportedly disclosing the claimed features missing from Cui.

Appellant respectfully disagrees that Ardoin and Bonatti discloses or even hints at associating a metadata expression of the functional relationship (between one or more objects of distinct ontologies in a metadata system) to a node that represents the functional relationship.

The Examiner argued that column 6, lines 49-65, and Figures 6 and 7 of Ardoin depict such association of a metadata expression to the node. The cited column 6 passage of Ardoin states that an “associative function” node is used to establish dependency relations between value nodes. As explained by Ardoin, a value node “represents a storage.” Ardoin, 6:40. Figures 6 and 7 of Ardoin show graphs with nodes and relations. *Id.*, 9:55-67. However, there is no hint given in any of the cited passages, or anywhere else, of Ardoin regarding associating a metadata expression of the functional relationship (between one or more objects of **distinct ontologies**) to a node that represents the functional relationship. It is clear that Ardoin contemplates relations between nodes within just one ontology.

Although Bonatti refers to integrating different ontologies (Bonatti, § 3.2), there is no teaching in Bonatti of associating a metadata expression of the functional relationship (between one or more objects of **distinct ontologies**) to a node that represents the functional relationship.

In view of the foregoing, it is clear that the hypothetical combination of Cui, Ardoin, and Bonatti does not disclose or hint at the claimed subject matter.

Moreover, it is respectfully submitted that no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Cui, Ardoin, and Bonatti. Cui discloses a mapping server that stores mappings between **ontologies**. There is no teaching in Cui of functional relationships between one or more objects of distinct ontologies. Ardoin relates to defining relations between nodes within just a single ontology. There would have been no reason to apply the teachings of Bonatti to Cui and Ardoin. Bonatti teaches that distinct ontologies are to be integrated—such an approach is different from the teaching in Cui that mappings are provided between different ontologies. Once such mappings are provided, there would have been no need to incorporate the teachings of Bonatti into Cui. In fact, modifying Cui with the teachings of Bonatti would have resulted in a significant change in the principle of operation of the Cui system, which is an indication that a person of ordinary skill in the art would not have been prompted to make the combination/modification proposed by the Examiner.

In view of the foregoing, it is respectfully submitted that the obviousness rejection of claim 11 and its dependent claims is erroneous.

The obviousness rejection of independent claim 18 and its dependent claims is also erroneous.

Reversal of the final rejection of the above claims is respectfully requested.

2. Claims 15-17.

Claim 15 depends from claim 11 and is therefore allowable for at least the same reasons as claim 11.

Moreover, claim 15 further recites identifying mappings between dependency chains spanning the distinct ontologies. As purportedly disclosing this feature of claim 15, the Examiner cited Cui, page 10, lines 18-20, which refers to mappings between ontologies. There

is no teaching or hint in Cui of mappings between **dependency chains** spanning distinct ontologies.

Claim 15 and its dependent claims are therefore further allowable for the foregoing reason.

Reversal of the final rejection of the above claims is respectfully requested.

B. Claims 13-14 and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cui in view of Ardoin and Bonatti and further in view of W3C (Resource Description Framework (RDF): Concepts and Abstract Syntax).

1. Claims 13, 14, 20.

In view of the allowability of base claims over Cui, Ardoin, and Bonatti, it is respectfully submitted that the obviousness rejection of dependent claims 13, 14, and 20 over Cui, Ardoin, Bonatti, and W3C has been overcome.

Reversal of the final rejection of the above claims is respectfully requested.

CONCLUSION

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

Date: August 4, 2009

/Dan C. Hu/

Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
1616 South Voss Road, Suite 750
Houston, TX 77057-2631
Telephone: (713) 468-8880
Facsimile: (713) 468-8883

VIII. APPENDIX OF APPEALED CLAIMS

The claims on appeal are (claims 1-10 and 21-25 have been withdrawn):

- 1 11. A method performed by at least one processor, the method comprising:
2 generating a node to represent a functional relationship between one or more objects of
3 distinct ontologies in a metadata system;
4 associating a metadata expression of the functional relationship to the node; and
5 associating one or more parameters of the functional relationship to the node.
- 1 12. The method of claim 11 further comprising associating a dependency chain representing
2 the dependent relationships between properties of a parameter path associated with the one or
3 more parameters of the functional relationship.
- 1 13. The method of claim 11 wherein associating one or more parameters comprises
2 generating a resource that aggregates a local name, type, and dependency chain.
- 1 14. The method of claim 11 wherein associating one or more parameters comprises
2 generating a resource that aggregates a type and a dependency chain and that is associated to a
3 name through an explicit mapping.
- 1 15. The method of claim 11 further comprising identifying mappings between dependency
2 chains spanning the distinct ontologies.
- 1 16. The method from claim 15 wherein the identifying further comprises utilizing heuristics
2 to suggest alternative mappings between dependency chains.
- 1 17. The method of claim 15 further comprising maintaining the mappings that span the
2 distinct ontologies when one of the distinct ontologies is modified.

1 18. A computer readable medium storing a program executable by a processor, the program
2 causes the processor to:

3 generate a node to represent a functional relationship between one or more objects of
4 distinct ontologies in a metadata system;

5 link to the node a metadata expression of the functional relationship; and

6 link one or more parameters of the functional relationship to the node.

1 19. The computer readable medium of claim 18 wherein the program further causes the
2 processor to connect a dependency chain representing the dependent relationships between
3 properties of a parameter path.

1 20. The computer readable medium of claim 18 wherein the program further causes the
2 processor to connect one or more parameters comprising generating a blank node that aggregates
3 a local name, type, and dependency chain.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.